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Docket No.: M4065.0482/P482  
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:  
Terry L. Gilton, et al.

Application No.: 10/077,784

Group Art Unit: 2818

Filed: February 20, 2002

Examiner: Not Yet Assigned

For: REMOVABLE PROGRAMMABLE  
CONDUCTOR MEMORY CARD AND  
ASSOCIATED READ/WRITE DEVICE  
AND METHOD OF OPERATION

RECEIVED  
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INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents  
Washington, DC 20231

Dear Sir:

Pursuant to 37 C.F.R. § 1.56, the attention of the Patent and Trademark Office is hereby directed to the documents listed on the attached PTO/SB/08. It is respectfully requested that the subject matter of the documents be expressly considered during the prosecution of this application and that the documents be made of record therein and appear among the "References Cited" on any patent to issue from this application. A copy of each document is attached.

A brief explanation of relevance of the non-patent documents listed on form PTO/SB/08 is provided and attached hereto as Appendix A. The brief explanation provided for each document is not tantamount to an admission that a document is "material" or that it qualifies as prior art. The Examiner is respectfully requested to utilize Appendix A only as a tool by which to better categorize the documents for substantive use in examining the claims of the application.

Documents discussed in Appendix A marked with an asterisk (\*) are indicated to be potentially more relevant than others. Such marking is provided only to assist the Examiner; however, the Examiner is requested to thoroughly review all documents cited herein.

In accordance with 37 C.F.R. § 1.97(g), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made or that no other material information as defined in 37 C.F.R. § 1.56(a) exists. It is submitted that the Information Disclosure Statement is in compliance with 37 C.F.R. § 1.98 and the Examiner is respectfully requested to consider and cite the listed documents.

The Commissioner is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 04-1073, under Order No. M4065.0482/P482. A duplicate copy of this paper is enclosed.

Dated: October 8, 2002

Respectfully submitted,

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## APPENDIX A

Abdel-All, et al., Vacuum 59 (2000) 845-853: published in December, this document generally relates to, inter alia, the electrical properties of  $\text{Ge}_5\text{As}_{38}\text{Te}_{57}$  as a function of temperature.

\*Adler and Moss, J. Vac. Sci. Technol. 9 (1972) 1182-1189: this document generally relates to, inter alia, two types of electrical/material switching – threshold and memory, in amorphous materials; the effects of temperature, pressure, and frequency on switching; and the physics of threshold voltage and memory.

Adler et al., Ref. Mod. Phys. 50 (1978) 209-220: this document generally relates to, inter alia, threshold switching in amorphous alloys, state (“on” and “off”) characteristics, and glass properties.

Afifi, et al., Appl. Phys. A 55 (1992) 167-169: this document generally relates to, inter alia, SeGe-Sb glasses.

\*Afifi, et al., J. Phys. 17 (1986) 335-342: this document generally relates to, inter alia, electrical and thermal conductivity of  $\text{Ge}_x\text{Se}_{1-x}$  compositions as a function of temperature.  $\text{Ge}_{25}\text{Se}_{75}$  stoichiometry is disclosed.

Alekperova and Gadzhieva, 23 (1987) 137-139: this document generally relates to, inter alia, a characteristic diode state in  $\text{Ag}_2\text{Se}$  compositions upon heating (to 376-400°K).

\*Aleksiejunas and Cesnys, Phys. Stat. Sol. (a) 19 (1973) K169-K171: this document generally relates to, inter alia, the subjects of selenium investigation and how Se- $\text{Ag}_2\text{Se}$  contributes silver ions to a selenium composition.

Angell, Annu. Rev. Phys. Chem. 43 (1992) 693-717: this document generally relates to, inter alia, the presence of ion conductors in solids.

Aniya, Solid State Ionics 136-137 (November 2,2000) 1085-1089: this document generally relates to, inter alia, ion conductor glasses.

Asahara and Izumitani, J. Non-Cryst. Solids 11 (1972) 97-104: this document generally relates to, inter alia, Cu-As-Se glass.

Asokan, et al., Phys. Rev. Lett. 62 (1989) 808-810: this document generally relates to, inter alia,  $\text{Ge}_x\text{Se}_{100-x}$  glasses and their transition from semiconductor-like material to metal-like material.

Baranovskii and Cordes, J. Chem. Phys. 111 (1999) 7546-7557: this document generally relates to, inter alia, ionic glasses and conduction (percolation theory).

Belin et al., Sol. St. Ionics 136-137 (November 2,2000) 1025-1029: this document generally relates to, inter alia, conductivity spectra of the glass  $0.5\text{Ag}_2\text{S}-0.5\text{GeS}_2$  and the temperature dependency of the conductivity.

Belin, et al., Solid State Ionics 143 (July 2,2001) 445-455: this document generally relates to, inter alia, the electrical properties of  $\text{Ag}_7\text{GeSe}_5\text{I}$  – an argyrodite compound.

Benmore and Salmon, Phys. Rev. Lett. 73 (1994) 264-267: this document generally relates to, inter alia, the characteristics of chalcogenide alloys.

Bernede, Thin Solid Films 70 (1980) L1-L4: this document is in the French language and the Applicant has no translation. It is presently understood to generally relate to, inter alia, metal- $\text{Ag}_2\text{Se}$ -metal sandwich devices.

Bernede, Thin Solid Films 81 (1981) 155-160: this document generally relates to, inter alia, memories of selenium alloys with metal (e.g., Ag) electrodes, where the “on” memory states require constant voltage.

Bernede, Phys. Stat. Sol. (a) 57 (1980) K101-K104: this document generally relates to, inter alia, metal-Ag<sub>2</sub>Se-P systems.

Bernede and Abachi, Thin Solid Films 131 (1985) L61-L64: this document generally relates to, inter alia, metal-insulator-metal thin films with electroforming effects; the films have silver, gold and copper electrodes.

\*Bernede, et al., Thin Solid Films 97 (1982) 165-171: this document generally relates to, inter alia, Ag<sub>2</sub>Se/Se/Metal thin film sandwiches, which were studied by shape of electrodes (e.g., symmetrical or asymmetrical).

Bernede, et al., Phys. Stat. Sol. (a) 74 (1982) 217-224: this document generally relates to, inter alia, switching in Al-Al<sub>2</sub>O<sub>3</sub>Ag<sub>2-x</sub>Se<sub>1+x</sub> devices.

Bondarev and Pikhitsa, Solid State Ionics 70/71 (1994) 72-76: this document generally relates to, inter alia, Ag<sup>(-)</sup>/RbAg<sub>4</sub>I<sub>5</sub> boundary – depletion layer, and dendritic electrodeposition.

\*Boolchand, Asian Journal of Physics (2000) 9, 709-72: this document generally relates to, inter alia, Ge<sub>x</sub>Se<sub>1-x</sub> glasses, which have selenium-rich and germanium-rich clusters, and the intrinsically-broken bond characteristics thereof.

\*Boolchand and Bresser, Nature 410 (2001) 1070-1073: published April 26, this document generally relates to, inter alia, Ag<sub>2</sub>Se as an electrolyte additive to glass, e.g., GeSe<sub>4</sub>. Ge<sub>30</sub>Se<sub>70</sub> glass was found not to work well because of Ag<sub>2</sub>Se crystallization.

\*Boolchand, et al., J. Optoelectronics and Advanced Materials, 3 (September 2001), 703: this document generally relates to, inter alia, a review of Raman tool scattering of chalcogenide glasses. The floppyness and rigidity is observed. Ge<sub>x</sub>Se<sub>1-x</sub> is disclosed, as is a stoichiometry of Ge<sub>25</sub>Se<sub>75</sub>.

Boolchand and Grothaus, Eds. Chadi and Harrison, Proc. Int. Conf. Phys, Semicond., 17<sup>th</sup> (1985) 833-36: this document generally relates to, inter alia, GeSe and GeS glasses and the importance of a broken chemical order therein.

\*Boolchand, et al., Properties and Applications of Amorphous Materials, M.F. Thorpe and Tichy, L. (eds.) Kluwer Academic Publishers, the Netherlands, 2001, pp. 97-132: this document generally relates to, inter alia, the prediction of glass rigidity in  $\text{Ge}_x\text{Se}_{1-x}$  glass, e.g.,  $\text{Ge}_{23}\text{Se}_{77}$ .

\*Boolchand, et al., Diffusion and Defect Data, Vol. 53-54 (1987) 415-420: this document generally relates to, inter alia, thermal annealing of  $\text{Ge}_x\text{Se}_{1-x}$  films.

\*Boolchand, et al., Phys. Rev. B 25 (1982) 2975-2978: this document generally relates to, inter alia, the examination of GeSe glass having Sn impurities by Mossbauer spectroscopy. Investigations into glass network topology, which has an intrinsically broken bond backbone, suggesting Ge and Se rich clusters.

Boolchand, et al., Sol. State Comm. 45 (1983) 183-185: this document generally relates to, inter alia,  $\text{Ge}_x\text{Se}_{1-x}$  and  $\text{Ge}_x\text{S}_{1-x}$  glasses.

\*Boolchand and Bresser, Dep. Of ECECS, Univ. Cincinnati 45221-0030: this document generally relates to, inter alia,  $\text{Ge}_x\text{Se}_{1-x}$  and the relation of glass transition temperature to Ge concentration in backbone. Although the publication date of this reference is not known to the Applicant, it was revised October 28, 1999 and is believed to be publicly available at the University of Cincinnati, Department of Electrical and Computer Engineering and Computer Science.

Bresser, et al., Phys. Rev. Lett. 56 (1986) 2493-2496: this document generally relates to, inter alia, an investigation of c-GeSe<sub>2</sub> structure.

Bresser, et al., J. de Physique 42 (1981) C4-193-C4-196: this document generally relates to, inter alia, the characteristics of GeSe<sub>2</sub> and GeS<sub>2</sub> glasses.

Bresser, et al., Hyperfine Interactions 27 (1986) 389-392: this document generally relates to, inter alia, germanium selenide glasses doped with tellurium.

Cahen, et al., Science 258 (1992) 271-274: this document generally relates to, inter alia, chalcopyrite CuInSe<sub>2</sub> glasses.

Chatterjee, et al., J. Phys. D: Appl. Phys. 27 (1994) 2624-2627: this document generally relates to, inter alia, As<sub>x</sub>Te<sub>100-x-y</sub>Se<sub>y</sub> glasses and the current, voltage, and electrical switching behavior. Discloses applicability in read mostly memories.

\*Chen and Tai, Appl. Phys. Lett. 37 (1980) 1075-1077: this document generally relates to, inter alia, silver photodoping of Ge<sub>x</sub>Se<sub>1-x</sub> and whisker formation (crystalline Ag<sub>2</sub>Se).

Chen and Cheng, J. Am. Ceram. Soc. 82 (1999) 2934-2936: this document generally relates to, inter alia, germanium containing chalcogenides doped with Si<sub>3</sub>N<sub>4</sub>.

Chen, et al., J. Non-Cryst. Solids 220 (1997) 249-253: this document generally relates to, inter alia, As<sub>10</sub>Ge<sub>30</sub>Se<sub>60</sub> glasses (and the like) doped with Si<sub>3</sub>N<sub>4</sub>.

Cohen, et al., J. Non-Cryst. Solids 8-10 (1972) 885-891: this document generally relates to, inter alia, Ge-Te-X glasses as memory devices.

Croitoru, et al., J. Non-Cryst. Solids 8-10 (1972) 781-786: this document generally relates to, inter alia, the physics of conductivity in Ge-containing films.

Dalven and Gill, J. Appl. Phys. 38 (1967) 753-756: this document generally relates to, inter alia, beta-Ag<sub>2</sub>Te.

Davis, Search 1 (1970) 152-155: this document generally relates to, inter alia, the subject of amorphous semiconductors as compared to glass.

\*Dearnaley, et al., Rep. Prog. Phys. 33 (1970) 1129-1191: this document generally relates to, inter alia, background information about glass and memory.

\*Dejus, et al., J. Non-Cryst. Solids 143 (1992) 162-180: this document generally relates to, inter alia, Ag-Ge-Se glass with Ag primarily bonded to Se. The reference discloses glass preparation.

den Boer, Appl. Phys. Lett. 40 (1982) 812-813: this document generally relates to, inter alia, a-Si:H sandwich structures and threshold switching from a low to high conductance.

Drusedau, et al., J. Non-Cryst. Solids 198-200 (1996) 829-832: this document generally relates to, inter alia, work with a-Si:H multilayers optoelectrical properties.

El Bouchairi, et al., Thin Solid Films 110 (1983) 107-113: this document generally relates to, inter alia,  $\text{Ag}_{2-x}\text{Se}_{1+x}$  thin film electrical characteristics and metal-like conduction.

El Gharras, et al., J. Non-Cryst. Solids 155 (1993) 171-179: this document generally relates to, inter alia, photoconductivity of amorphous Se and Ge-Se alloy evaporated films, and reduction of photocurrent by increase of Ge content.

\*El Ghrandi, et al., Thin Solid Films 218 (1992) 259-273: this document generally relates to, inter alia, GeSe films deposited by PECVD, Ag evaporation deposition onto glass and photodissolution into same, and optical properties are investigated. GeSe stoichiometries of 30/70 and 25/75, respectively, are disclosed.



\*El Ghrandi, et al., Phys. Stat. Sol. (a) 123 (1991) 451-460: this document generally relates to, inter alia, dissolution of Ag into  $\text{GeSe}_{5.5}$  glass by flash evaporation.

El-kady, Indian J. Phys. 70 A (1996) 507-516: this document generally relates to, inter alia,  $\text{Ge}_{21}\text{Se}_{17}\text{Te}_{62}$  glass and memory, switching, and current controlled negative resistance.

Elliott, J. Non-Cryst. Solids 130 (1991) 85-97: this document generally relates to, inter alia, mechanisms of photodissolution of metals (e.g., Ag) in chalcogenides based on ionic and electronic charge carriers.

\*Elliott, J. Non-Cryst. Sol. 130 (1991) 1031-1034: this document generally relates to, inter alia, the photodissolution of metals (e.g., Ag) in chalcogenide glasses and the physics thereof.

Elsamanoudy, et al., Vacuum 46 (1995) 701-707: this document generally relates to, inter alia, studies of quaternary chalcogenide films with Te-As-Ge-Si sandwich structures between electrodes.

\*El-Zahed and El-Korashy, Thin Solid Films 376 (November 1, 2000) 236-240: this document generally relates to, inter alia,  $\text{Ge}_{20}\text{Bi}_x\text{Se}_{80-x}$  film analysis regarding conduction and changes from p to n type.

Fadel, Vacuum 44 (1993) 851-855: this document generally relates to, inter alia, a study of the switching and memory characteristics of  $\text{Se}_{75}\text{Ge}_{25-x}\text{As}_x$  films.

\*Fadel and El-Shair, Vacuum 43 (1992) 253-257: this document generally relates to, inter alia,  $\text{Se}_{75}\text{Ge}_7\text{Sb}_{18}$  glass electrical conduction and thermal character.

Feng, et al., Phys. Rev. Lett. 78 (1997) 4422-4425: this document generally relates to, inter alia, germanium selenide and germanium sulfide materials.

\*Feng, et al., J. Non-Cryst. Solids 222 (1997) 137-143: this document generally relates to, inter alia, the structural character of  $\text{Ge}_x\text{S}_{1-x}$  glass, e.g., hardness and elasticity.

\*Fischer-Colbrie, et al., Phys. Rev. B 38 (1988) 12388-12403: this document generally relates to, inter alia, photodiffused Ag-GeSe<sub>2</sub> and the interaction between doped Ag with Se atoms and Ge with Ge atoms.

Fleury, et al., Phys. Stat. Sol. (a) 64 (1981) 311-316: this document generally relates to, inter alia, amorphous selenium films and their conductance.

Fritzsche, J. Non-Cryst. Sol. 6 (1971) 49-71: this document generally relates to, inter alia, background information on chalcogenides as semiconductors.

Fritzsche, Annual Review of Mat. Sci. 2 (1972) 697-744: this document generally relates to, inter alia, background information on amorphous semiconductors.

Gates, et al., J. Am. Chem. Soc. (2001): this document generally relates to, inter alia, creating Ag<sub>2</sub>Se nanowires by chemical reaction.

Gosain, et al., Jap. J. Appl. Phys. 28 (1989) 1013-1018: this document generally relates to, inter alia, germanium telluride glasses sandwiched in electrodes and the physics thereof.

\*Guin et al., J. Non-Cryst. Sol. 298 (March 28,2002) 260-269: this document generally relates to, inter alia, germanium selenide (GeSe) glass with low hardness, the mechanical properties of which are investigated. Stoichiometries of the glass are disclosed as being, inter alia, 10/90, 20/80, and 30/70, respectively.

\*Guin et al., J. Am. Ceram. Soc. 85 (June 2002) 1545-1552: this document generally relates to, inter alia, germanium selenide glasses and a study of the hardness properties thereof. Glass stoichiometries of 40/60 and 20/80, respectively, are disclosed.

Gupta, J. Non-Cryst. Sol. 3 (1970) 148-154: this document generally relates to, inter alia, switching in chalcogenides.

Haberland and Stiegler, J. Non-Cryst. Solids 8-10 (1972) 408-414: this document generally relates to, inter alia, glasses containing Te, As, Ge, and Si, and pulse sequence and time factors in switching.

Haifz, et al., J. Apply. Phys. 54 (1983) 1950-1954: this document generally relates to, inter alia, As-Se-Cu glasses.

Hajto, et al., Int. J. Electronics 73 (1992) 911-913: this document generally relates to, inter alia, metal/a-Si:H/metal devices.

Hajto, et al., J. Non-Cryst. Solids 266-269 (May 1,2000) 1058-1061: this document generally relates to, inter alia, a-Si:H ion conductors, polarity-dependant digital and analogue memory, and dependency on contact metals.

Hajto, et al., J. Non-Cryst. Solids 198-200 (1996) 825-828: this document generally relates to, inter alia, electroformed V/a-Si:H/Cr devices.

Hajto, et al., Phil. Mag. B 63 (1991) 349-369: this document generally relates to, inter alia, p+ type amorphous Si memory structures with polarity dependent analogue switching.

Hayashi, et al., Japan. J. Appl. Phys. 13 (1974) 1163-1164: this document generally relates to, inter alia, Au-CdS(CdSe)-Au systems and metal-Se-Sn-SnO<sub>2</sub> systems.

\*Hegab, et al., Vacuum 45 (1994) 459-462: this document generally relates to, inter alia, Ge<sub>20</sub>M<sub>75</sub>Sb<sub>18</sub> glass electrical conduction and thermal character.

Hirose and Hirose, J. Appl. Phys. 47 (1976) 2767-2772: this document generally relates to, inter alia, Ag photodoped  $\text{As}_2\text{S}_3$ , polarized switching, and dendrite formation.

Hong and Speyer, J. Non-Cryst. Solids 116 (1990) 191-200: this document generally relates to, inter alia, Cd-Ge-As glass with Ag contacts.

Hosokawa, J. Optoelectronics and Advanced Materials 3 (2001) 199-214: this document generally relates to, inter alia, x-ray scattering experiments on glassy  $\text{Ge}_x\text{Se}_{1-x}$ .

Hu, et al., J. Non-Cryst. Solids 227-230 (1998) 1187-1191: this document generally relates to, inter alia, a-Si:H with Cr and V electrodes.

Hu, et al., Phil. Mag. B. 74 (1996) 37-50: this document generally relates to, inter alia, a-Si:H glasses doped with Cr and analogue memory.

Hu, et al., Phil. Mag. B 80 (January 1, 2000) 29-43: this document generally relates to, inter alia, a-Si:H films doped with Cr-p+.

Iizima, et al., Solid State Comm. 8 (1970) 153-155: this document generally relates to, inter alia, switching and memory effects in As-Te-I<sup>1,2</sup> and As-Te-Ge-Si<sup>3</sup> glass systems. Thermal breakdown is proposed switching effect.

Ishikawa and Kikuchi, J. Non-Cryst. Solids 35 & 36 (1980) 1061-1066: this document generally relates to, inter alia,  $\text{Ge}_2\text{S}_2$  films with Ag photodissolved therein.

\*Iyetomi, et al., J. Non-Cryst. Solids 262 (February 2000) 135-142: this document generally relates to, inter alia, Ag/Ge/Se glasses as a composite of  $\text{GeSe}_2$  and  $\text{Ag}_2\text{Se}$  (a fast ion conductor) and polarizability of Se ions.

Jones and Collins, Thin Solid Films 40 (1977) L15-L18: this document generally relates to, inter alia, switching in Se films and switching back with reverse pulse.

Joullie and Marucchi, Phys. Stat. Sol. (a) 13 (1972) K105-K109: this document generally relates to, inter alia, As<sub>2</sub>Se<sub>7</sub> glass.

Joullie and Marucchi, Mat. Res. Bull. 8 (1973) 433-442: this document generally relates to, inter alia, As<sub>2</sub>Se<sub>5</sub> film conduction and switching.

Kaplan and Adler, J. Non-Cryst. Solids 8-10 (1972) 538-543: this document generally relates to, inter alia, thermal effects on semiconductor switching.

\*Kawaguchi, et al., J. Appl. Phys. 79 (1996) 9096-9104: this document generally relates to, inter alia, Ag-rich chalcogenide glass, Ge<sub>3</sub>S<sub>7</sub>-Ag and Ge<sub>30</sub>Se<sub>70</sub>-Ag, max Ag content of 67%, graphs phase diagram, and discloses that Ag works better than Cu.

\*Kawaguchi and Masui, Jpn. J. Appl. Phys. 26 (1987) 15-21: this document generally relates to, inter alia, silver photodoping of chalcogenide films, e.g., Ge<sub>30</sub>Se<sub>70</sub> films.

\*Kawasaki, et al., Solid State Ionics 123 (1999) 259-269: this document generally relates to, inter alia, the electrical properties of Ag<sub>x</sub>(GeSe<sub>3</sub>)<sub>1-x</sub>, conductivity EMF measurements, glass composition, X-ray diffraction, T<sub>g</sub> and T<sub>c</sub>, Ag ion transport, and glass structure.

\*Kluge, et al., J. Non-Cryst. Solids 124 (1990) 186-193: this document generally relates to, inter alia, photodiffusion of silver into Ge<sub>x</sub>Se<sub>100-x</sub> layers, how this differs from ion beam induced diffusion, Ge<sub>30</sub>Se<sub>70</sub> stoichiometry, Ag<sub>2</sub>Se, and percolation threshold.

\*Kolobov, J. Non-Cryst. Solids 198-200 (1996) 728-731: this document generally relates to, inter alia, p-type conductive chalcogenides, materials, and physics thereof.

\*Kolobov, J. Non-Cryst. Solids 137-138 (1991) 1027-1030: this document generally relates to, inter alia, doped and undoped glass layers as a p-n junction.

Korkinova and Andreichin, J. Non-Cryst. Solids 194 (1996) 256-259: this document generally relates to, inter alia, polarization of chalcogenide glass as depending on the materials used for electrode contacts.

\*Kotkata, et al., Thin Solid Films 240 (1994) 143-146: this document generally relates to, inter alia, GeSe glass switching and film thickness, memory, current filament, chemical and mechanical switching properties, and discloses that heat treatment or aging improves switching.

Lakshminarayan, et al., J. Instn. Electronics & Telecom. Engrs. 27 (1981) 16 19: this document generally relates to, inter alia, tellurium-containing chalcogenide glasses.

Lal and Goyal, Indian Journal of Pure & Appl. Phys. 29 (1991) 303-304: this document generally relates to, inter alia, theory on chalcogenide switching.

\*Leimer et al., Phys. Stat. Sol. (a) 29 (1975) K129-K132: this document generally relates to, inter alia, germanium selenide glass polarization behavior, e.g., inductive and capacitive components.

\*Leung, et al., Appl. Phys. Lett. 46 (1985) 543-545: this document generally relates to, inter alia, photoinduced diffusion of Ag into  $\text{Ge}_x\text{Se}_{1-x}$  and techniques for same.

Matsushita, et al., Jap. J. Appl. Phys. 11 (1972) 1657-1662: this document generally relates to, inter alia, Se-SnO<sub>2</sub> film switching and reversibility.

Matsushita, et al., Jpn. J. Appl. Phys. 11 (1972) 606: this document generally relates to, inter alia, polarized memory effect in Se films.

Mazurier, et al., Journal de Physique IV 2 (1992) C2-185 - C2-188: this document generally relates to, inter alia, Te-based glasses.

Messoussi, et al., Mat. Chem. And Phys. 28 (1991) 253-258: this document generally relates to, inter alia, selenium films and Bi electrodes.

\*Mitkova and Boolchand, J. Non-Cryst. Solids 240 (1998) 1-21: this document generally relates to, inter alia, the analysis of Group IV and V chalcogenides.

\*Mitkova and Kozicki, J. Non-Cryst. Solids 299-302 (May 14, 2002) 1023-1027: this document generally relates to, inter alia, photodissolution of Ag into Se-rich Ge-Se glasses for use in memory devices. The information disclosed in this reference was available to and known by the inventors prior to the filing of the application.

\*Mitkova, et al., Phys. Rev. Lett. 83 (1999) 3848-3851: this document generally relates to, inter alia, Ag doped chalcogenides,  $\text{Ge}_{20}\text{Se}_{80}$  stoichiometry is disclosed, Se rich glasses, Ge rich glasses, stoichiometric glasses, and presence of  $\text{Ag}_2\text{Se}$ .

\*Miyatani, J. Phys. Soc. Japan 34 (1973) 423-432: this document generally relates to, inter alia, electrical and ionic properties of solid solutions (e.g., doped glass), polarization, conductivity,  $\text{Ag}_2\text{Se}$  and  $\text{Cu}_2\text{Se}$ .

Miyatani, J. Phys. Soc. Japan 13 (1958) 317: this document generally relates to, inter alia, experiments regarding the electronic conductivity, ionic conductivity, hall constant, thermoelectric power, and Nernst coefficient of  $\text{Ag}_2\text{Se}$  as function of the e.m.f., E, the galvanic cell, or the deviation from stoichiometric composition.

\*Miyatani, J. Phys. Soc. Japan 14 (1959) 996-1002: this document generally relates to, inter alia,  $\text{Ag}_2\text{Te}$  and  $\text{Ag}_2\text{Se}$  ion conduction and the chemical potential of silver ions.

Mott, J. Non-Cryst. Sol. 1 (1968) 1-17: this document generally relates to, inter alia, glasses with vanadium or iron.

\*Nakayama, et al., Jpn. J. Appl. Phys. 32 (1993) 564-569: this document generally relates to, inter alia, electrically erasable nonvolatile memories in chalcogenide films of  $\text{As}_x\text{Sb}_y\text{Te}_z$ , flash evaporative deposition techniques, a high set-voltage compared to read-voltage,  $V_t$  creates a “filament,” and refresh-type pulse.

\*Nakayama, et al., Jpn. J. Appl. Phys. 39 (November 15, 2000) 6157-6161: this document generally relates to, inter alia, phase transition random access memory (PRAM) made of chalcogenide glass.

\*Nang et al., Jap. J. App. Phys. 15 (1976) 849-853: this document generally relates to, inter alia,  $\text{Ge}_x\text{Se}_{1-x}$  electrical and optical properties; it also discloses  $\text{Ge}_{.80}\text{Se}_{.20}$ ,  $\text{Ge}_{.60}\text{Se}_{.40}$ , and  $\text{Ge}_{.50}\text{Se}_{.50}$ .

Narayanan, et al., Phys. Rev. B 54 (1996) 4413-4415: this document generally relates to, inter alia, chalcogenide glass switching as thermally originated.

\*Neale and Aseltine, , IEEE Transactions On Electron Dev. Ed-20 (1973) 195-209: this document generally relates to, inter alia, read mostly memories with chalcogenides (e.g., Ge, Te), also discloses “floating gate,” and material combinations including Ge and Se.

Ovshinsky and Fritzsche, Metallurgical Transactions 2 (1971) 641-645: this document generally relates to, inter alia, reversible changes in amorphous Si, Be, and B using a laser to write and erase.

Ovshinsky, Phys. Rev. Lett. 21 (1968) 1450-1453: this document generally relates to, inter alia, rapid and reversible resistive switching by electric field in amorphous semiconductors.

Owen, et al., IEE Proc. 129 (1982) 51-54: this document generally relates to, inter alia, a-Si:H, gold or aluminum dots and silver paste.



Owen, et al., Phil. Mag. B 52 (1985) 347-362: this document generally relates to, inter alia, photoinduced chalcogenide effects ( $\text{As}_2\text{S}_3$ ) both reversible and irreversible.

\*Owen, et al., Int. J. Electronics 73 (1992) 897-906: this document generally relates to, inter alia, threshold and memory switching a-Si:H ion conductor, polarity-dependant digital memory, analogue memory, and device operation dependency on metal contacts.

Pearson and Miller, App. Phys. Lett. 14 (1969) 280-282: this document generally relates to, inter alia, glass diodes.

\*Pinto and Ramanathan, Appl. Phys. Lett. 19 (1971) 221-223: this document generally relates to, inter alia, electric field inducement of glass switching “filamentary” path.

Popescu, Solid-State Electronics 18 (1975) 671-681: this document generally relates to, inter alia, the physics of chalcogenide switching.

Popescu and Croitoru, J. Non-Cryst. Solids 8-10 (1972) 531-537: this document generally relates to, inter alia, switching behavior and thermal instability in chalcogenide glasses.

Popov, et al., Phys. Stat. Sol. (a) 44 (1977) K71-K73: this document generally relates to, inter alia, investigations into threshold and memory switching effects in amorphous selenium with electrodes of Ca, Ni, Ag, and Al.

\*Prakash, et al., J. Phys. D: Appl. Phys. 29 (1996) 2004-2008: this document generally relates to, inter alia, switching of  $\text{Ge}_{10}\text{As}_{45}\text{Te}_{45}$  glass, study of threshold voltage concept and switch back to off, suitability for read mostly memory.

Rahman and Sivarama, Mat. Sci. Eng. B12 (1992) 219-222: this document generally relates to, inter alia, chalcogenide glass with no exothermic crystallization reaction above  $T_g$  being of a threshold-switching type.

\*Ramesh, et al., Appl. Phys. A 69 (1999) 421-425: this document generally relates to, inter alia, electrical switching in GeTe with Ag or Cu and thermal character investigations.

Rose, et al., J. Non-Cryst. Solids 115 (1989) 168-170: this document generally relates to, inter alia, a-Si with Cr or V contacts.

Rose et al., Mat. Res. Soc. Symp. Proc. V258 (1992) 1075-1080: this document generally relates to, inter alia, a-Si:H memory.

Schuoocker and Rieder, J. Non-Cryst. Solids 29 (1978) 397-407: this document generally relates to, inter alia, As-Te-Ge film sandwiches with Molybdenum electrodes.

Sharma and Singh, Proc. Indian Natn. Sci. Acad. 46, A, (1980) 362-368: this document generally relates to, inter alia, evaporated Se films and their electrical conductivity.

\*Sharma, Ind. J. Of Pure and Applied Phys. 35 (1997) 424-427: this document generally relates to, inter alia, n-type  $Ag_2Se$  and other material stoichiometries. The device conductivity is analyzed, as is the grain size as a factor in device ability to polarize.

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Steventon, J. Phys. D: Appl. Phys. 8 (1975) L120-L122: this document generally relates to, inter alia, switching in chalcogenides, resistively changes, and formation of microfilaments at switch.

Steventon, J. Non-Cryst. Solids 21 (1976) 319-329: this document generally relates to, inter alia, chalcogenide switching with pulses and multiple pulse resetting.

Stocker, App. Phys. Lett. 15 (1969) 55-57: this document generally relates to, inter alia, switching character of bulk and thin film glasses.

Tanaka, Mod. Phys. Lett. B 4 (1990) 1373-1377: this document generally relates to, inter alia, photodoping mechanism and Ag/As<sub>30</sub>Se<sub>70</sub>.

Tanaka, et al., Solid State Comm. 8 (1970) 387-389: this document generally relates to, inter alia, thermal effect on switching in chalcogenides and As-Te-(Ge or Si).

\*Thornburg, J. Elect. Mat. 2 (1973) 3-15: this document generally relates to, inter alia, division of chalcogenides into stoichiometric compounds with no changes upon crystallization, stoichiometric compounds with changes upon crystallization, and non-stoichiometric which phase separate on crystallization, As<sub>2</sub>Se, and filament growth as a function of bias applied.

Thornburg, J. Non-Cryst. Solids 11 (1972) 113-120: this document generally relates to, inter alia, As<sub>2</sub>Se<sub>3</sub> glass switching sandwich structure.

\*Thornburg and White, (1972) 4609-4612: this document generally relates to, inter alia, precipitation of As particles out of As<sub>2</sub>Se<sub>3</sub> glass and the alignment in a filament.

\*Tichy and Ticha, J. Non-Cryst. Solids 261 (2000) 277-281: published in January, this document generally relates to, inter alia, Ge<sub>x</sub>Se<sub>1-x</sub> glass forming ability and 20/80 respective stoichiometry.

Titus, et al., Phys. Rev. B 48 (1993) 14650-14652: this document generally relates to, inter alia, percolation and chemical thresholds of chalcogenide glass.

\*Tranchant, et al., Proceedings of the 6th Riso International Symposium. 9-13 September 1985: this document generally relates to, inter alia, GeSe glass with Ag, silver photodissolution, and generation of  $\text{Ag}_2\text{Se}$ .

Tregouet and Bernede, Thin Solid Films 57 (1979) 49-54: this document generally relates to, inter alia,  $\text{Ag}_2\text{Te}$  glass characteristics.

Uemura, et al., J. Non-Cryst. Solids 117-118 (1990) 219-221: this document generally relates to, inter alia,  $\text{Ge}_4\text{Se}_6$  raman measurements and glass structure.

\*Uttecht, et al., J. Non-Cryst. Solids 2 (1970) 358-370: this document generally relates to, inter alia, As-Te-Ge glass,  $V_t$  switching, filament formation, and reversal of voltage causes filament to grown in opposite direction.

Viger, et al., J. Non-Cryst. Solids 33 (1976) 267-272: this document generally relates to, inter alia, Se films dark-conductivity and photoconductivity.

\*Vodenicharov, et al., Mat. Chem. and Phys. 21 (1989) 447-454: this document generally relates to, inter alia, M-GeSe-M films investigation for dc conductivity.

Wang, et al., IEEE Electron Dev. Lett. 13 (1992) 471-472: this document generally relates to, inter alia, antifuses.

Weirauch, App. Phys. Lett. 16 (1970) 72-73: this document generally relates to, inter alia, chalcogenide device resistively changes in high electric fields.

\*West, et al., J. Electrochem. Soc. 145 (1998) 2971-2974: this document generally relates to, inter alia,  $\text{Ag}/\text{As}_{24}\text{S}_{36}\text{Ag}_{40}/\text{Ag}$  systems and Ag transport.

\*West, Ph.D. Dissertation, ASU 1998: this document generally relates to, inter alia, metal dendrite memory with Ag or Cu doped solid electrolyte, photodissolution of Ag into  $As_2S_3$  glass, lateral devices with silver electrodes, vertical devices with Ag electrodes, write voltages and lesser read voltages, and pinpoint electrode surrounded by ring electrode. Although the exact publication date for this document is not known, it is believed to be available at Arizona State University.

Zhang, et al., J. Non-Cryst. Solids 151 (1992) 149-154: this document generally relates to, inter alia,  $T_g$  investigation for glasses.



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Substitute for form 1449A/PTO				<b>C mplete if Kn wn</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)				Application Number	10/077,784
				Filing Date	February 20, 2002
				First Named Inventor	Terry L. Gilton
				Art Unit	2818
				Examiner Name	Not Yet Assigned
Sheet	1	of	8	Attorney Docket Number	M4065.0482/P482

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
	AA	5,761,115	06/02/1998	Kozicki et al.	
	AB	6,084,796	07/04/2000	Kozicki et al.	
	AC	5,914,893	06/22/1999	Kozicki et al.	
	AD	5,896,312	04/20/1999	Kozicki et al.	
	AE	6,388,324	05/14/2002	Kozicki et al.	
	AF	US 2002/0000666	01/03/2002	Kozicki et al.	
	AG	5,500,532	03/19/1996	Kozicki et al.	
	AH	6,418,049	07/09/2002	Kozicki et al.	
	AI	5,751,012	05/12/1998	Wolstenholme et al.	
	AJ	5,789,277	08/04/1998	Zahorik et al.	
	AK	6,348,365	02/19/2202	Moore et al.	
	AL				
	AM				
	AN				
	AO				

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known)				
	BA	WO 02/21542	03/14/2002	Kozicki et al.		
	BB	WO 00/48196	08/17/2000	Kozicki et al.		
	BC	WO 97/48032	12/18/1997	Kozicki et al.		
	BD	WO 99/28914	06/10/1999	Kozicki et al.		

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<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See attached Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the application number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.



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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)			Application Number	10/077,784
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			First Named Inventor	Terry L. Gilton
			Group Art Unit	2818
			Examiner Name	Not Yet Assigned
			Attorney Docket Number	M4065.0482/P482
Sheet	2	of	8	

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS				
Examiner Initials	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>	
	CA	Abdel-All, A.; Elshafie, A.; Elhawary, M.M., DC electric-field effect in bulk and thin-film Ge <sub>5</sub> As <sub>38</sub> Te <sub>57</sub> chalcogenide glass, Vacuum 59 (2000) 845-853.		
	CB	Adler, D.; Moss, S.C., Amorphous memories and bistable switches, J. Vac. Sci. Technol. 9 (1972) 1182-1189.		
	CC	Adler, D.; Henisch, H.K.; Mott, S.N., The mechanism of threshold switching in amorphous alloys, Rev. Mod. Phys. 50 (1978) 209-220.		
	CD	Affi, M.A.; Labib, H.H.; El-Fazary, M.H.; Fadel, M., Electrical and thermal properties of chalcogenide glass system Se <sub>75</sub> Ge <sub>25</sub> -xSbx, Appl. Phys. A 55 (1992) 167-169.		
	CE	Affi, M.A.; Labib, H.H.; Fouad, S.S.; El-Shazly, A.A., Electrical & thermal conductivity of the amorphous semiconductor GexSe <sub>1-x</sub> , Egypt, J. Phys. 17 (1986) 335-342.		
	CF	Alekperova, Sh.M.; Gadzhieva, G.S., Current-Voltage characteristics of Ag <sub>2</sub> Se single crystal near the phase transition, Inorganic Materials 23 (1987) 137-139.		
	CG	Aleksiejunas, A.; Cesnys, A., Switching phenomenon and memory effect in thin-film heterojunction of polycrystalline selenium-silver selenide, Phys. Stat. Sol. (a) 19 (1973) K169-K171.		
	CH	Angell, C.A., Mobile ions in amorphous solids, Annu. Rev. Phys. Chem. 43 (1992) 693-717.		
	CI	Aniya, M., Average electronegativity, medium-range order, and ionic conductivity in superionic glasses, Solid state Ionics 136-137 (2000) 1085-1089.		
	CJ	Asahara, Y.; Izumitani, T., Voltage controlled switching in Cu-As-Se compositions, J. Non-Cryst. Solids 11 (1972) 97-104.		
	CK	Asokan, S.; Prasad, M.V.N.; Parthasarathy, G.; Gopal, E.S.R., Mechanical and chemical thresholds in IV-VI chalcogenide glasses, Phys. Rev. Lett. 62 (1989) 808-810		
	CL	Baranovskii, S.D.; Cordes, H., On the conduction mechanism in ionic glasses, J. Chem. Phys. 111 (1999) 7546-7557.		
	CM	Belin, R.; Taillades, G.; Pradel, A.; Ribes, M., Ion dynamics in superionic chalcogenide glasses: complete conductivity spectra, Solid state Ionics 136-137 (2000) 1025-1029.		
	CN	Belin, R.; Zerouale, A.; Pradel, A.; Ribes, M., Ion dynamics in the argyrodite compound Ag <sub>7</sub> GeSe <sub>5</sub> I: non-Arrhenius behavior and complete conductivity spectra, Solid State Ionics 143 (2001) 445-455.		
	CO	Benmore, C.J.; Salmon, P.S., Structure of fast ion conducting and semiconducting glassy chalcogenide alloys, Phys. Rev. Lett. 73 (1994) 264-267.		
	CP	Bernede, J.C., Influence du metal des electrodes sur les caracteristiques courant-tension des structures M-Ag <sub>2</sub> Se-M, Thin solid films 70 (1980) L1-L4.		
	CQ	Bernede, J.C., Polarized memory switching in MIS thin films, Thin Solid Films 81 (1981) 155-160.		
	CR	Bernede, J.C., Switching and silver movements in Ag <sub>2</sub> Se thin films, Phys. Stat. Sol. (a) 57 (1980) K101-K104.		
	CS	Bernede, J.C.; Abachi, T., Differential negative resistance in metal/insulator/metal structures with an upper bilayer electrode, Thin solid films 131 (1985) L61-L64.		
	CT	Bernede, J.C.; Conan, A.; Fousenan't, E.; El Bouchairi, B.; Goureaux, G., Polarized memory switching effects in Ag <sub>2</sub> Se/Se/M thin film sandwiches, Thin solid films 97 (1982) 165-171.		
	CU	Bernede, J.C.; Khelil, A.; Kettaf, M.; Conan, A., Transition from S- to N-type differential negative resistance in Al-Al <sub>2</sub> O <sub>3</sub> -Ag <sub>2</sub> -xSe <sub>1+x</sub> thin film structures, Phys. Stat. Sol. (a) 74 (1982) 217-224.		
	CV	Bondarev, V.N.; Pikhitsa, P.V., A dendrite model of current instability in RbAg <sub>4</sub> I <sub>5</sub> , Solid State Ionics 70/71 (1994) 72-76.		
	CW	Boelchand, P., The maximum in glass transition temperature (T <sub>g</sub> ) near x=1/3 in GexSe <sub>1-x</sub>		

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# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet	3	of	8	Attorney Docket Number	M4065.0482/P482
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**C mplete if Known**

Application Number	10/077,784
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First Named Inventor	Terry L. Gilton
Group Art Unit	2818
Examiner Name	Not Yet Assigned
Attorney Docket Number	M4065.0482/P482

		Glasses, Asian Journal of Physics (2000) 9, 709-72.	
CX		Boolchand, P.; Bresser, W.J., Mobile silver ions and glass formation in solid electrolytes, Nature 410 (2001) 1070-1073.	
CY		Boolchand, P.; Georgiev, D.G.; Goodman, B., Discovery of the Intermediate Phase in Chalcogenide Glasses, J. Optoelectronics and Advanced Materials, 3 (2001), 703	
CZ		Boolchand, P.; Selvanathan, D.; Wang, Y.; Georgiev, D.G.; Bresser, W.J., Onset of rigidity in steps in chalcogenide glasses, Properties and Applications of Amorphous Materials, M.F. Thorpe and Tichy, L. (eds.) Kluwer Academic Publishers, the Netherlands, 2001, pp. 97-132.	
CA1		Boolchand, P.; Enzweiler, R.N.; Tenhover, M., Structural ordering of evaporated amorphous chalcogenide alloy films: role of thermal annealing, Diffusion and Defect Data Vol. 53-54 (1987) 415-420.	
CB1		Boolchand, P.; Grothaus, J.; Bresser, W.J.; Suranyi, P., Structural origin of broken chemical order in a GeSe2 glass, Phys. Rev. B 25 (1982) 2975-2978.	
CC1		Boolchand, P.; Grothaus, J.; Phillips, J.C., Broken chemical order and phase separation in GexSe1-x glasses, Solid state comm. 45 (1983) 183-185.	
CD1		Boolchand, P., Bresser, W.J., Compositional trends in glass transition temperature (Tg), network connectivity and nanoscale chemical phase separation in chalcogenides, Dept. of ECECS, Univ. Cincinnati (October 28, 1999) 45221-0030.	
CE1		Boolchand, P.; Grothaus, J., Molecular Structure of Melt-Quenched GeSe2 and GeS2 glasses compared, Proc. Int. Conf. Phys. Semicond. (Eds. Chad and Harrison) 17 <sup>th</sup> (1985) 833-36.	
CF1		Bresser, W.; Boolchand, P.; Suranyi, P., Rigidity percolation and molecular clustering in network glasses, Phys. Rev. Lett. 56 (1986) 2493-2496.	
CG1		Bresser, W.J.; Boolchand, P.; Suranyi, P.; de Neufville, J.P., Intrinsically broken chalcogen chemical order in stoichiometric glasses, Journal de Physique 42 (1981) C4-193-C4-196.	
CH1		Bresser, W.J.; Boolchand, P.; Suranyi, P.; Hernandez, J.G., Molecular phase separation and cluster size in GeSe2 glass, Hyperfine Interactions 27 (1986) 389-392.	
CI1		Cahen, D.; Gilet, J.-M.; Schmitz, C.; Chernyak, L.; Gartsman, K.; Jakubowicz, A., Room-Temperature, electric field induced creation of stable devices in CuInSe2 Crystals, Science 258 (1992) 271-274.	
CJ1		Chatterjee, R.; Asokan, S.; Titus, S.S.K., Current-controlled negative-resistance behavior and memory switching in bulk As-Te-Se glasses, J. Phys. D: Appl. Phys. 27 (1994) 2624-2627.	
CK1		Chen, C.H.; Tai, K.L., Whisker growth induced by Ag photodoping in glassy GexSe1-x films, Appl. Phys. Lett. 37 (1980) 1075-1077.	
CL1		Chen, G.; Cheng, J., Role of nitrogen in the crystallization of silicon nitride-doped chalcogenide glasses, J. Am. Ceram. Soc. 82 (1999) 2934-2936.	
CM1		Chen, G.; Cheng, J.; Chen, W., Effect of Si3N4 on chemical durability of chalcogenide glass, J. Non-Cryst. Solids 220 (1997) 249-253.	
CN1		Cohen, M.H.; Neale, R.G.; Paskin, A., A model for an amorphous semiconductor memory device, J. Non-Cryst. Solids 8-10 (1972) 885-891.	
CO1		Croitoru, N.; Lazarescu, M.; Popescu, C.; Telnic, M.; and Vescan, L., Ohmic and non-ohmic conduction in some amorphous semiconductors, J. Non-Cryst. Solids 8-10 (1972) 781-786.	
CP1		Dalven, R.; Gill, R., Electrical properties of beta-Ag2Te and beta-Ag2Se from 4.2 to 300K, J. Appl. Phys. 38 (1967) 753-756.	
CQ1		Davis, E.A., Semiconductors without form, Search 1 (1970) 152-155.	
CR1		Dearnaley, G.; Stoneham, A.M.; Morgan, D.V., Electrical phenomena in amorphous oxide films, Rep. Prog. Phys. 33 (1970) 1129-1191.	
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CT1		den Boer, W., Threshold switching in hydrogenated amorphous silicon, Appl. Phys. Lett. 40 (1982) 812-813.	
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# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 4 of 8

## Complete if Known

Application Number	10/077,784
Filing Date	February 20, 2002
First Named Inventor	Terry L. Gilton
Group Art Unit	2818
Examiner Name	Not Yet Assigned
Attorney Docket Number	M4065.0482/P482

		silicon/nanodisperse metal (SIMAL) system-Films of unique electronic properties, J. Non-Cryst. Solids 198-200 (1996) 829-832.	
CV1		El Bouchairi, B.; Bernede, J.C.; Burgaud, P., Properties of Ag <sub>2</sub> -xSe <sub>1+x</sub> /n-Si diodes, Thin Solid Films 110 (1983) 107-113.	
CW1		El Gharras, Z.; Bourahla, A.; Vautier, C., Role of photoinduced defects in amorphous Ge <sub>x</sub> Se <sub>1-x</sub> photoconductivity, J. Non-Cryst. Solids 155 (1993) 171-179.	
CX1		El Ghrandi, R.; Calas, J.; Galibert, G.; Averous, M., Silver photodissolution in amorphous chalcogenide thin films, Thin Solid Films 218 (1992) 259-273.	
CY1		El Ghrandi, R.; Calas, J.; Galibert, G., Ag dissolution kinetics in amorphous GeSe <sub>5.5</sub> thin films from "in-situ" resistance measurements vs time, Phys. Stat. Sol. (a) 123 (1991) 451-460.	
CZ1		El-kady, Y.L., The threshold switching in semiconducting glass Ge <sub>21</sub> Se <sub>17</sub> Te <sub>62</sub> , Indian J. Phys. 70A (1996) 507-516.	
CA2		Elliott, S.R., A unified mechanism for metal photodissolution in amorphous chalcogenide materials, J. Non-Cryst. Solids 130 (1991) 85-97.	
CB2		Elliott, S.R., Photodissolution of metals in chalcogenide glasses: A unified mechanism, J. Non-Cryst. Solids 137-138 (1991) 1031-1034.	
CC2		Elsamanoudy, M.M.; Hegab, N.A.; Fadel, M., Conduction mechanism in the pre-switching state of thin films containing Te As Ge Si, Vacuum 46 (1995) 701-707.	
CD2		El-Zahed, H.; El-Korashy, A., Influence of composition on the electrical and optical properties of Ge <sub>20</sub> BixSe <sub>80-x</sub> films, Thin Solid Films 376 (2000) 236-240.	
CE2		Fadel, M., Switching phenomenon in evaporated Se-Ge-As thin films of amorphous chalcogenide glass, Vacuum 44 (1993) 851-855.	
CF2		Fadel, M.; El-Shair, H.T., Electrical, thermal and optical properties of Se <sub>75</sub> Ge <sub>7</sub> Sb <sub>18</sub> , Vacuum 43 (1992) 253-257.	
CG2		Feng, X.; Bresser, W.J.; Boolchand, P., Direct evidence for stiffness threshold in Chalcogenide glasses, Phys. Rev. Lett. 78 (1997) 4422-4425.	
CH2		Feng, X.; Bresser, W.J.; Zhang, M.; Goodman, B.; Boolchand, P., Role of network connectivity on the elastic, plastic and thermal behavior of covalent glasses, J. Non-Cryst. Solids 222 (1997) 137-143.	
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CL2		Fritzsche, H., Electronic phenomena in amorphous semiconductors, Annual Review of Materials Science 2 (1972) 697-744.	
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CQ2		Gupta, Y.P., On electrical switching and memory effects in amorphous chalcogenides, J. Non-Cryst. Sol. 3 (1970) 148-154.	



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First Named Inventor	Terry L. Gilton
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Attorney Docket Number	M4065.0482/P482

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Sheet	6	of	8	Attorney Docket Number	M4065.0482/P482
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## Complete if Known

Application Number	10/077,784
Filing Date	February 20, 2002
First Named Inventor	Terry L. Gilton
Group Art Unit	2818
Examiner Name	Not Yet Assigned
Attorney Docket Number	M4065.0482/P482

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## Complete if Known

Application Number	10/077,784
Filing Date	February 20, 2002
First Named Inventor	Terry L. Gilton
Group Art Unit	2818
Examiner Name	Not Yet Assigned

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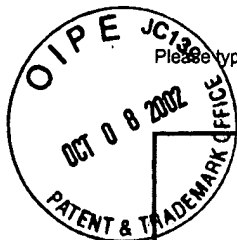
Application Number	10/077,784
Filing Date	February 20, 2002
First Named Inventor	Terry L. Gilton
Group Art Unit	2818
Examiner Name	Not Yet Assigned
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Examiner Signature		Date Considered	
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2818

<b>TRANSMITTAL FORM</b>  (to be used for all correspondence after initial filing)		Applicati n Number	10/077,784
		Filing Date	February 20, 2002
		First Named Inventor	Terry L. Gilton
		Group Art Unit	2818
		Examiner Name	Not Yet Assigned
Total Number of Pages in This Submission	30	Attorney Docket Number	M4065.0482/P482

**ENCLOSURES (check all that apply)**

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Signature	
Date	October 8, 2002